

What is claimed is:

1. A solid electrolyte having the formula of $\text{Li}_x\text{Si}_y\text{M}_z\text{O}_v\text{N}_w$ where $0.3 \leq x \leq 0.46$, $0.05 \leq y \leq 0.15$, $0.016 \leq z < 0.05$, $0.42 \leq v < 0.5$, $0 \leq w \leq 0.029$, and M is at least one selected from the group consisting of Nb, Ta, P, and W.

2. A method of manufacturing the solid electrolyte of claim 1 using Li_2O , SiO_2 , and at least one selected from the group consisting of Nb_2O_5 , Ta_2O_5 , WO_3 , and Li_3PO_4 as source materials by one of simultaneous sputtering, electron beam deposition, ion beam deposition, and chemical vapor deposition.

3. The method of claim 2, wherein a reactant gas containing nitrogen is used.

4. A lithium battery employing the solid electrolyte of claim 1.

5. A thin-film battery employing the solid electrolyte of claim 1.